



## Filing Receipt

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**PROJECT NO. 52268**

CALENDAR YEAR 2021 – WORKSHOP	§	PUBLIC UTILITY COMMISSION
AGENDA ITEMS WITHOUT AN	§	
ASSOCIATED CONTROL NUMBER	§	OF TEXAS

**PROJECT NO. 52373**

REVIEW OF WHOLESALE ELECTRIC	§	PUBLIC UTILITY COMMISSION
MARKET DESIGN	§	OF TEXAS

**SHELL ENERGY NORTH AMERICA (US) LP's RESPONSE TO PUBLIC NOTICE OF REQUEST FOR COMMENTS – EXECUTIVE SUMMARY**

- **Incentives for dispatchable generation can be created by establishing new Reliability Services as specified in Senate Bill 3 (“SB3”), modifying the Energy pricing, and modifying Ancillary Service products**, without adopting a centralized capacity market as implemented in ISO/RTOs like PJM, IESO, NYISO, and MISO or a bilateral capacity market through imposing a capacity obligation on load serving entities (“LSE”) as implemented in ISO/RTOs like CAISO and SPP, or procuring rate-regulated generation as contemplated in the BHE proposal and similar capacity backstop proposals. Shell Energy strongly recommend that commission design the Energy, Ancillary Service, and Reliability Service markets in such a way that market revenues and incentives from these are sufficient to meet the Commission’s reliability objective and ERCOT would not have to rely on centralized or bilateral market constructs to reliably serve load.
- **New Reliability Services:** ERCOT should develop and procure additional seasonal reliability service products, as specified in SB3, that ensure appropriate level of reliability by addressing variability of non-dispatchable resources during extreme heat, extreme cold, and low non-dispatchable power production. This capacity should be available to be resold as Energy, regulation service, responsive reserve service (“RRS”), contingency reserve service (“ECRS”), or non-spin reserve service (“NSRS”) in both the day ahead market (“DAM”) and the real time energy market (“RTM”)
  - Establish a new **Seasonal Dispatchable Service** to procure dispatchable resources covering the amount of capacity equal to the potential drop in capacity from non-firm resources during extreme scenario conditions. This construct is not intended to operate like a capacity market to procure capacity to cover forecasted plus reserves to cover extreme scenarios. Neither would it be a capacity backstop mechanism to hold capacity out of market as the “Dispatchable Reliability Service” proposed by LCRA. This will represent seasonal procurement of new and/or existing dispatchable resource capacity to ensure ERCOT will have

sufficient available dispatchable resources to commit in real time to meet the variability of non-dispatchable resources. If the procured dispatchable capacity is unavailable for more than 5% of the intervals during the season it should be disqualified, the associated reliability service revenue clawed back, subject to an appropriate administrative penalty, or any combination of the above. The cost of procuring this service would be assigned based on cause causation to individual non-firm resources proportional to the extent of their non-firmness.

- Establish a new **Winter Fuel Assurance Product**, similar to the 2-year ahead procured 2-year contract Black Start Service (“BSS”), that can be provided by resources with on-site fuel storage or dual fuel capability, procured based on a target maximum money spend, and contracts awarded based on minimization of cost to customers and maximization of the degree of resiliency the offer provides.
- **Energy pricing modification:** Operating Reserve Demand Curve (“ORDC”) changes should be made to (1) reflect the value of the reserves ERCOT determines are needed for maintaining system reliability (2) create incentives for resources to self-commit near scarcity (3) effectuate a gradual increase in price as we approach scarcity so as to reduce the volatility in the value of hedges procured by Retail Electric Providers (“REPs”), encouraging them to hedge adequately (4) generate a more stable revenue stream so that the forwards can reflect the need for reserves and (5) ORDC changes combined with other changes are enough to achieve the desired Loss of Load Expectation (“LOLE”) at the Market Equilibrium Reserve Margin (“MERM”) to incent needed market investments.
  - **ORDC modifications:** change Probability of reserves falling Below the Minimum Contingency Level (“PBMCL”) no lower than 3000 MWs, Value of Lost Load (“VOLL”) to no lower than \$6000/MWh and additional shifts in curve needed to meet reliability objective.
  - **Out of Market Actions:** Create pricing incentives to minimize out of market dispatch and resource commitment. Mitigate price suppressive effects of must take energy or capacity injected into the system by unavoidable OOM actions, like impacts from must take Low Sustainable Level (“LSL”) energy from offline reserve deployments, deployed Load Resources providing reserves, energy offer of reliability unit commitment (“RUC”) capacity. Establish higher energy offer floors for energy from Ancillary Service Reserves and RUCs
- **Ancillary Service modifications:** Services that ERCOT relies on to maintain reliability should be appropriately valued by procuring them through tech-neutral, transparent, competitive market processes so that the market can innovate and invest in resources to provide the services in the most efficient way. ERCOT should determine if new AS products for inertia, voltage support, locational reserve requirement etc. are needed to

value and compensate specific attributes of capacity necessary for meeting reliability objective.

- **Modify ECRS and NSRS requirement** to make enough dispatchable capacity available in real time to meet net load ramp requirements in real time.
- **Liquidity of Ancillary Service Products:** Improve the ability to hedge and liquidity of Ancillary Service (“AS”) products by procuring the ancillary service requirement using a demand curve/ virtual offers/ virtual bids on a year ahead basis, and then re-clearing it monthly and in the DAM. Implement AS demand curves and allow virtual AS offers/bids in DAM along with implementation of Real- Time Co-optimization.

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<b>REVIEW OF WHOLESALE ELECTRIC</b>	<b>§</b>	<b>PUBLIC UTILITY COMMISSION</b>
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**SHELL ENERGY NORTH AMERICA (US) LP’s RESPONSE TO PUBLIC NOTICE OF REQUEST FOR COMMENTS**

Pursuant to Public Utility Commission of Texas (Commission) procedural rules Shell Energy North America (US) LP (“Shell Energy”), files this response to public notice of request for comments filed on September 20, 2021 in Project No 52373, Review of Wholesale Electric Market Design. The Order indicates that parties should file final market design proposals by September 30, 2021, so this filing is timely. Shell Energy appreciates the opportunity to participate in the discussions.

**I. INTRODUCTION**

Shell Energy is a wholly owned subsidiary of Royal Dutch Shell PLC whose long-term objective is to expand its position in the US power sector and build a modern, integrated power business to deliver more and cleaner energy. Shell Energy has been actively trading in the US electricity market since 1995, as a leading power supplier to independent energy retailers, cooperatives, municipalities, commercial and industrial (“C&I”) loads, and as a leading off taker of power and hedge provider enabling generation construction by independent power producers. In North America, Shell Energy manages more than 10,000 MW of generation capacity, about a third of which comes from renewable sources, and sells more than 270 million MWh of power each year. Shell Energy has been an active ERCOT market participant, both in its own right and through its wholly owned subsidiary, MP2 Energy, and has participated extensively in ERCOT committees and groups towards helping strengthen market rules and market competitiveness. With the history and the experience of our extensive involvement, Shell Energy offers these recommendations in connection with the Commission’s review of ERCOT wholesale market design.

Shell Energy proposes several modifications to the ERCOT market design. Each are designed to enhance reliability, provide adequate revenue to generation resource owners during the normal operation of the system, while utilizing market mechanisms and keeping consumer cost and benefit in mind. These recommendations provide a path forward to implement the directions set forth in Senate Bill 3 (“SB3”) and are based on modifications to revenue streams in the Energy-only market to incentivize dispatchable generation. Some of these changes have already been studied either at ERCOT or the Commission. Shell Energy submits that the Commission should move forward now with these modifications, given the urgent need to reform energy and Ancillary Service markets and deliver heightened reliability.

## **II. ACHIEVING RELIABILITY OBJECTIVE**

Underlying all market re-design efforts, the Commission must not forget the objective of the Texas Senate Bill 7 (“SB7”) restructuring effort, which the Legislature re-emphasized in SB3, was to shift investment risks from consumers to developers. Meeting the ERCOT reliability objectives by procuring regulated generation, which is afforded cost recovery and a guaranteed rate of return, would shift the investment and operating risks back to consumers, and would ultimately lead to pressures to re-regulate the entire wholesale market. All generation investors would likely insist on receiving similar guarantees of revenue recovery before investing in the ERCOT market.

Reliability objectives such as maintaining desired operating reserve levels should be achieved through transparent, technology neutral, competitive market-based mechanisms so that prices can reflect the value of the services being provided and market incentives will be aligned with reliability objectives. ISOs create the products that procure MWs with specific attributes needed to reliably serve and plan to serve load. Attributes could be generic - any form of energy to meet load, such as the energy procured in Day-Ahead or Real Time Markets, or specific like the fast frequency response product - 30 cycle responsive to frequency deviations below a certain threshold to arrest frequency decay. Entities, who have an obligation to cover for these products, try to procure them in the forward exchanges or bilateral trading markets to hedge their exposure. These bids to buy send signals for investors to build to provide the services.

Investors build resources to provide these services when the forward prices, indicate the desired rate of return on the investment. Investors sell products forward to generate a revenue

stream to support project financing. Hedge providers then purchase these products in bulk from investors, thereby providing the investors the underlying contracts needed to get financing to build the resources. The hedge providers take on uncertainty and risks associated with weather, load, fuel price, technology change, etc. by procuring this bulk product if the rules are transparent and the analysis indicates a high probability of making a return from selling products in smaller quantities in the forward markets or real time.

### **Revenue streams for incenting dispatchable generation**

Resources get their revenue from intrinsic value of MW from the forward valuation of Energy, Ancillary Service, Reliability Service and Capacity that they can sell in the forward markets and from extrinsic value of those products due to uncertainties related to weather, load growth, gas prices, etc. In short, dispatchable generation can be incentivized by adjusting the following **revenue streams**

- **Energy:** Improve the forward curves for the energy by adjusting ORDC
- **Ancillary Services:** Create new services that value the dispatchable attributes
- **Reliability Services:** Create new services that value the dispatchable attributes
- **Capacity:** If needed, create a capacity revenue stream by implicitly procuring dispatchable capacity through capacity market or backstop procurement or explicitly through obligations for loads.

ERCOT Independent Market Monitor's 2020 State of the Market Report<sup>1</sup> ("SOM") states a Cost of New Entry ("CONE") value for natural gas combustion turbines as ranging from \$70 to \$117 per kW-year derived based on average development costs in the Texas market on undeveloped greenfield sites. Companies may have opportunities to build generation at much lower cost than these estimates because of lower equipment costs, access to an existing site, or access to superior financing. The CONE study by Brattle<sup>2</sup> provide more data on the factors that influence the values. CONE is the annualized estimate of fixed plant costs based on the total up-front capital costs and other fixed-cost recovery of the plant and therefore reflects the amount of money that the plant needs to make each year per kW to be viable. ERCOT's Peaker Net Margin

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<sup>1</sup> <https://www.potomaceconomics.com/wp-content/uploads/2021/06/2020-ERCOT-State-of-the-Market-Report.pdf>

<sup>2</sup> <https://www.pjm.com/~media/committees-groups/committees/mic/20180425-special/20180425-pjm-2018-cost-of-new-entry-study.ashx>

demonstrates how much profit is associated with a 10 Heat Rate (“HR”) Peaker during the year. Based on the past 15 years of the market SOM reports, the profit for Peakers significantly exceeded its CONE only in 2021. For 2011, 2019 the profits were ~20% higher than CONE and for 2008 the profits just barely covered the CONE. All other years, the profits were around or lower than half of CONE.

**Based on this range of CONE, a very rough estimation would say that an average CT would need roughly at least over \$10/MWh [(\$70+\$117)/8760 kW-hr] in profit every hour to be viable.** This could come from selling an Ancillary Service like non-spin or Reliability Service like dispatchable reliability product year-round if the average clearing price of the service is above \$10/MWh. The average price for Non-spin was around \$7/MWh before ERCOT increased the procurement of reserves. After the increase in reserves, the average prices jumped about \$15/MWh. That increase alone significantly boosted the revenue stream for dispatchable generation.

To recover this from Energy, since the peakers are in the money during a small portion of the year, the clearing price for energy would have to be significantly higher during those short periods to get to an average year-round profit of \$10/MWh. In addition, the Energy payment would have to cover additional costs like startup, maintenance, operating, fuel etc. A 10 HR Peaker selling Energy during summer peak hours and Non-spin for the rest of the year, would have about 640hrs (5 days \*16 hours for July and Aug) of Energy revenue and 8120 hrs of Non-Spin revenue. If it makes about \$56.8k from selling Non-Spin at an average price of \$7/MWh, it will have to make  $(\$90k - \$56.8k) / 640 = \sim \$52$  avg profit from selling energy for the 640hrs. Under a \$3/MMbtu fuel cost (dispatch cost of \$3/MMbtu \*10HR = \$30 ignoring startup/ maintenance/ operating costs), the resource won't be in the money over the year – the average energy price over those 640 hours is below \$82/MWh.

In short, in an Energy-Only market, the Commission can incent dispatchable generation by modifying Energy prices through ORDC changes, and by increasing Ancillary Service revenue streams by defining/procuring new Ancillary Service or Reliability Services for quality of MWs needed to maintain reliability which it is currently obtaining through normal system operation but is not separately compensates or incentivized.



### III. NEW RELIABILITY SERVICE PRODUCTS

The Commission should address SB3 requirements to ensure seasonal reliability by establishing two new Seasonal Reliability Services. ERCOT should procure these services to ensure appropriate reliability on a seasonal basis, by addressing variability of non-dispatchable resources during extreme heat, extreme cold, and low non-dispatchable power production and by addressing issues with fuel availability. This capacity should be available to resell as Energy, Reg-Up, Reg-Dn, RRS, ECRS, or NSRS, in both the day ahead market (“DAM”) and the real time energy market (“RTM”).

#### ***Recommendation 1: Establish new Seasonal Dispatchable Service and Winter Fuel Assurance Product***

New **Seasonal Dispatchable Service** will be used to procure dispatchable resources to cover an amount of capacity equal to the potential drop in capacity from non-firm resources during extreme condition scenario that meets commission’s reliability objective. This will incent enough new and existing dispatchable resources to be available for the season for ERCOT to have sufficient available dispatchable resources to commit in real time to meet net load ramp requirements in real time. This new service would entail the following elements.

- Requirement: the amount procured should cover the expected output of non-firm resources during peak load of the season minus the expected minimum output of such resources during extreme condition of the season.
- Qualification: the capacity should be dispatchable, and able to meet continuous operating requirements for the entire season as defined in SB3.
- Performance/ Penalties: unavailability of the procured dispatchable capacity for more than 5% of the intervals during the season should result in disqualification, claw back of reliability service revenue, administrative penalty in an appropriate amount, or any combination of the above.
- Cost assignment: ERCOT’s procurement costs would be assigned based on cause causation to individual non-firm resources proportional to the extent of their non-firmness.

### ***Recommendation 2: Establish New Winter Fuel Assurance Product***

Establish a new **Winter Fuel Assurance Product**, similar to the 2 year ahead procured 2-year contract Black Start Service (“BSS”), that can be provided by resources with on-site fuel storage or dual fuel capability. This will provide fuel certain capacity, with qualifying resources having certified fuel supplies that would not be diminished during fuel interruptions of a defined period. The procurement could be based on a target maximum money spend and contracts be awarded based on minimization of cost to customers and maximization of the degree of resiliency the offer provides.

## **IV. ENERGY PRICING MODIFICATIONS**

Commission should direct ERCOT to implement Operating Reserve Demand Curve (“ORDC”) changes to (1) appropriately value the reserves ERCOT determines are needed for maintaining system reliability (2) create incentives for resources to self-commit near scarcity (3) effectuate a gradual increase in price as we approach scarcity so as to reduce the volatility in the value of hedges procured by Retail Electric Providers (“REPs”), encouraging them to hedge adequately (4) generate a more stable revenue stream so that the forwards can reflect the need for reserves and (5) ORDC changes combined with other market design changes are enough to achieve Commission’s desired reliability objective: desired Loss of Load Expectation (“LOLE”) at the Market Equilibrium Reserve Margin (“MERM”) to incent needed market investments. Shell Energy discussed these actions in its comments on the High System Wide Offer Cap (“HCAP”) increase proposed in Project No. 52631.

In considering potential ORDC modifications, the Commission should bear in mind that the market will compete away any excess in ORDC pricing in the form of additional online reserves. However, if ORDC changes underestimate what is needed, the market will not receive proper pricing signals and current market scarcity risks would persist or worsen. Simply put, higher prices will self-correct and decline with new investment, but ORDC reforms that aim too low will exacerbate resource adequacy problems and necessitate additional market design changes to meet resource adequacy needs.

The Commission should adopt new rules that make market design changes to achieve the reliability benefit that ERCOT currently gets from Out of Market (“OOM”) actions. The Commission should direct ERCOT to develop processes that minimize OOM, and market rules

changes that mitigate the pricing impacts of unavoidable OOMs. OOM actions by definition are non-competitive and reverse the results that the competitive market realizes. They erode confidence in the applicable market rules and introduce uncertainty into the market, increasing price risk and deterring greater investment.

***Recommendation 3: ORDC modifications:***

- Increase Probability of reserves falling Below the Minimum Contingency Level (“PBMCL”) no lower than 3000MWs,
- Modify Value of Lost Load (“VOLL”) to no lower than \$6000/MWh
- Implement additional shifts in curve needed such that the changes combined with other market design changes are enough to achieve Commission’s desired reliability objective

***Recommendation 4: Mitigate impacts of Out of Market Actions:***

- Create pricing incentives to minimize out of market dispatch and resource commitments. For ex: implement a transmission demand curve that would not violate constraints and would not create the need for operators to manually dispatch units.
- Mitigate price suppressive effects of must take energy or capacity injected into the system by unavoidable OOM actions by modifying reliability deployment price adder (“RDPA”) to include the effect, like impacts from must take Low Sustainable Level (LSL) energy from offline reserve deployments, deployed Load Resources providing reserves, energy offer of reliability unit commitment (“RUC”) capacity.
- Establish higher offer floors for Non-Spinning Reserves and RUCs so that their energy does not under cut market-based offers.

## **V. ANCILLARY SERVICE MODIFICATIONS**

ERCOT should identify and define new AS products for the quality of MWs needed to maintain reliability which it is currently obtaining through normal system operation but that is not separately compensated or incentivized. Changes to the suite of ancillary services at ERCOT’s disposal would not only give ERCOT more tools for preserving reliability, but also would enhance revenue opportunities for qualifying generation resources, most of which would be the type of dispatchable, firm power that the Commission is seeking to incentivize. Services that ERCOT relies on to maintain reliability should be appropriately valued by procuring those

through tech-neutral, transparent, competitive market processes so that the market can innovate and invest in resources to provide the services in the most efficient way.

The Commission should consider creating new products addressing system needs that ERCOT currently obtains through normal system operation (but which it does not separately compensate or incentivize). ERCOT is best qualified to identify the ancillary services needed to maintain reliability and has the best information available to clearly define the quality/quantity of MWs needed and performance standard for qualifying MWs. Providing these services will create the revenue stream incentives necessary for the market to innovate and compete to provide services in the most efficient tech neutral way. Based on Shell Energy's experience as trader, retail electric provider, generation operator and investor all over North American, Shell Energy's recommendations are to maintain the current level of ancillary services and add additional services to value specific attributes of capacity that are needed to maintain reliability but are provided for free now as listed below.

- Regulation Service (Reg-Up/ Reg-Dn): current load balancing service to cover five-minute net load ramp between SCED runs to meet BAAL001 NERC standard
- Responsive Reserve Service (RRS): Current frequency and energy product refine after implementation of ECRS to be the service to ensure resources are available to arrest frequency decay, to meet BAAL003 NERC standard
- ERCOT Contingency Reserve Service (ECRS): Not yet implemented service to provide frequency recovery within 15 mins after the most severe single contingency, as specified in BAAL002 NERC standard
- Non-Spinning (Non-Spin): Modify current service to ensure that ECRS and Non-Spin combined procures enough capacity that can be ramped, sufficient to meet maximum net load changes during high ramping periods (six hours ahead), to address net load forecast error
- Inertia: New Ancillary Service product to have enough spinning mass online during low load, high renewable output scenarios when system inertia is low.
- Locational Reserve or Voltage support: New locational Ancillary Service product to have enough spinning mass to provide support in local area

***Recommendation 5: Re-evaluate the backset of Ancillary Service Products***

- The Commission should direct ERCOT to determine if new Ancillary Service products for inertia, voltage support, locational reserve requirement etc. would be beneficial for improving reliability and if so, should be compensated to ensure that specific attributes of capacity necessary for meeting reliability objective are incentivized.
- Modify ECRS and NSRS requirement to make enough dispatchable capacity available in real time to meet net load ramp requirements in real time.

***Recommendation 6: Improve liquidity of current Ancillary Service Products***

- Improve the ability to hedge and liquidity of Ancillary Service products by procuring the ancillary service requirement using a demand curve/ virtual offers/ virtual bids on a year ahead basis, and then re-clearing it monthly and in the DAM
- Implement Ancillary Service demand curves and allow virtual AS offers/bids in DAM along with implementation of Real- Time Co-optimization.

**VI. ALTERNATIVES AS PROXY FOR CAPACITY MARKET PROPOSAL**

***Recommendation 7: Enable Energy/ Ancillary Service/ Reliability Service markets to meet the Reliability Objective***

Shell Energy strongly believes that incentives for dispatchable generation can be created by creating new Reliability Services as specified in SB3, modifying the Energy pricing, and modifying Ancillary Service products, without implementing a centralized capacity market as adopted in ISO/RTOs like PJM, IESO, NYISO, and MISO or a bilateral capacity market through imposing a capacity obligation on load serving entities (“LSE”) as implemented in ISO/RTOs like CAISO, and SPP or procuring rate-regulated generation as contemplated in the BHE proposal or similar capacity backstop proposals.

SB3’s Section 18 requirement can be met by a Seasonal Dispatchable Service to cover the level of non-firm resource variability by procuring resources which are dispatchable and available to operate through the season. Shell Energy strongly recommends that the Commission design the Energy/ Ancillary Service/ Reliability Service markets in such a way that they provide market revenues and incentives that are sufficient to meet the Commission’s reliability objective

and such that ERCOT would not have to rely on centralized or bilateral market constructs to reliably serve load.

**LSE Obligation Proposal:** An LSE's obligation, which reflects the capacity needed to serve its loads, is generally satisfied through capacity procured on a bilateral basis, and the costs are paid by loads through retail rates. The capacity and power costs associated with this bilateral arrangement are generally private, such that the broader market has no means of knowing the prevailing bilateral pricing. This LSE obligation is an indirect and inefficient capacity market that promotes LSEs with affiliates at the expense of small retailers which would not be advantageous for competition in Texas's vibrant retail market.

**Pros:** Procures enough capacity to meet the reliability objective

**Cons:** From an overall competitive benefit perspective, this proposal is more inefficient than a Centralized Capacity Market if the LSE obligation is ongoing or triggered into the future. It could drive small retailers out of the retail market space. It also does not address non-firmness of non-dispatchable units directly.

**Improvements needed:** Although Shell Energy does not necessarily support proposals to require LSEs to procure capacity, the Commission should adopt certain safeguards as proposed below if it moves in that direction.

- **No on-going obligation and obligation triggers only if the market does not respond:** The market should be allowed time to respond to the pricing incentives created from the Energy, Ancillary Service and Reliability Service market. If the LSE capacity obligation is implemented, then it is imperative that there be no ongoing obligation and that the obligation be relied upon only as a backstop to ensure reliability if inadequate generation develops in the coming months based on market incentives. This would let the market work and minimize regulatory mechanisms.
- **Triggered no more than a year in advance, and a compliance check should be done based on real time load:** To impose the least burden on the retail market and to allow improved prediction of load with customer movements, the obligation trigger should not be done more than a year in advance and the compliance check should be done based on real time load (e.g. during 100 peak net load hours during the season).

- **Certificate based:** Any capacity to be procured under such a system should be in the form of certificates, along the lines of renewable energy credits (“REC”). That is, an LSE would not be required to produce a bilateral or other contract for capacity to satisfy the requirement. Certificates could be distinguished based on different attributes and requirements, such as quality of firmness, duration, fuel availability, ability to operate throughout the season, etc. Certificates would also be assignable to physical resources and therefore tradable. This would create a hedgeable and tradeable commodity within the ERCOT market, would reduce the inefficiencies in bilateral contracting, and would remove subjectivity in compliance checking, thereby reducing the compliance check burden.
- **QSE level performance check:** The Commission or the designated enforcement authority should perform a compliance check at the resource entity QSE level. This way, generators responsible for supplying the LSE backstop capacity can spread the risk of outages across all their generation facilities so that the risk of an outage at one unit can be covered by units across the state.

**Capacity Backstop Proposals:** Proposals to create rate-regulated generation as contemplated in the BHE proposal, or similar capacity backstop proposals, will result in other generation investors seeking the same guarantees to put their capital into the ERCOT market, ultimately choking off necessary investment for the main non-regulated generation fleet. This would be anti-competitive, damaging to the rest of the generation market and could eventually result in all thermal generation being procured as backstop power, unless a significantly high revenue stream develops for the energy and ancillary services markets.

Whether by one company or more, any proposal that creates rate-regulated generation will inevitably result in investors seeking the same rate guarantee to put their capital into this market. Otherwise, they would be competing against the rate-based generation on unequal terms. The Commission should reject specific proposals in this regard. As Shell Energy understands it, the alternative proposals being contemplated are (1) to existing rate base units that are near retirement which have more than likely been fully depreciated (2) to new rate base units in a “competitive” way, which is simply a non sequitur—rate regulated units, which do not face investment or operating risk, will inherently have a competitive advantage against resources

exposed to those risks and costs. The proposals, as we understand them, contemplate procuring enough capacity to meet a 1 event in 10 yrs standard and holding that capacity back from the Energy and Ancillary Service Market. This does not directly address the variability caused by non-dispatchable resources. A much more efficient approach of addressing the variability caused by non-dispatchable resources as contemplated in SB3 is to develop specific and targeted reliability services like the **Seasonal Dispatchable Service** proposed in this filing which would address the wide range of likely outcomes from non-dispatchable resources that are not completed in an average based mechanism like LOLE which is based on Effective Load Carrying Capability (ELCC) calculations.

**Pros:** The proposal would procure enough backstop capacity to meet the reliability objective

**Cons:** It does not address non-firmness of non-dispatchable units directly and could eventually result in all thermal generation being procured as backstop power

**Improvements needed:** The Commission could adopt some of these proposals as reliability back stop service by tailoring them to address the specific reliability concern of non-firmness of non-dispatchable resources. The below suggested changes could help accomplish this objective.

- **Procurement amount to be specifically based on the extent of non-firm resource variability:** Procure dispatchable resources that can operate through the season to cover for the amount of capacity equal to the potential drop in capacity from non-firm resources during extreme scenario conditions. The extent of extreme scenario and level of quantity procured could be determined by ERCOT or expert consultants.
- **Capacity should not be held back and be allowed to be resold as Energy or Ancillary Services:** The reliability service capacity should not be held out of the Energy and Ancillary Service markets. It should be allowed to be resold as Energy, Reg, RRS, ECRS, and NSRS in both the day ahead market (“DAM”) and the real time energy market (“RTM”) so that Energy and Ancillary Services would continue to be the main revenue stream for incentivizing generation investment, and this reliability service will not eventually lead to “rate basing” of all generation.



- **Cost should be assigned based on cause causation to create incentives to reduce the cause:** The cost of this reliability service be assigned based on cause causation to individual non-firm resources proportional to the extent of their non-firmness so that financial incentives are created for improving firmness either through physical or financial contracts.
- **Enable Energy and Ancillary Service to be the main revenue stream:** The energy market and ancillary services market design changes should be made so that they continue to serve as the foundation of the competitive market. Energy market and ancillary services are higher reliability value products that require dispatchable attributes as well, and hence should provide the main revenue stream for incentivizing investments in dispatchable resources. This reliability service should work as a backup in case of missing money in attracting dispatchable resources needed to maintain reliability.

## VII. CONCLUSION

Shell Energy applauds the Commission for the tremendous amount of effort undertaken to address the different market deficiencies uncovered by winter storm Uri. In addition to the efforts already undertaken, the Commission should procure additional Ancillary and Reliability Services to address the variability of non-dispatchable resources and make modifications to the ORDC to create the Energy pricing signals to incentivize investment in new and existing dispatchable generation to improve reliability.

Shell Energy appreciates the opportunity to provide input on these important market design issues and requests that the Commission evaluate the recommendations described in this filing. We look forward to participating in future discussions on market design changes and we stand ready to support Commission in developing competitive wholesale market solutions to achieve the level of grid reliability that Texans expect and deserve.

Respectfully submitted,

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